CLAIMS

1. A solid state imaging device comprising:

a solid state image pickup device having an effective pixel region in one surface thereof;

a light-transparent cover arranged opposite to said effective pixel region and having planar dimensions smaller than those of said solid state image pickup device; and

an adhering section for adhering said solid state image pickup device and said light-transparent cover.

2. A solid state imaging device according to Claim 1, wherein said adhering section contains photosensitive adhesive.

3. A solid state imaging device according to Claim 2, wherein a space is formed between said effective pixel region and said light-transparent cover, and wherein said adhering section is formed outside said effective pixel region in said one surface of said solid state image pickup device.

4. A solid state imaging device according to Claim 3, wherein said adhering section seals the outer periphery of said space.

5. A solid state imaging device according to Claim 1, wherein a space is formed between said effective pixel region and said

light-transparent cover, and wherein said adhering section is formed outside said effective pixel region in said one surface of said solid state image pickup device.

6. A semiconductor wafer on which a plurality of solid state image pickup devices each having an effective pixel region in one surface thereof are formed, comprising:

a light-transparent plate arranged opposite to said effective pixel region; and

an adhering section for adhering said solid state image pickup device and said light-transparent plate.

7. A semiconductor wafer according to Claim 6, wherein said light-transparent plate is divided so as to form light-transparent covers each having planar dimensions smaller than those of said solid state image pickup device.

8. A semiconductor wafer according to Claim 7, wherein said adhering section contains photosensitive adhesive.

9. A semiconductor wafer according to Claim 7, wherein a space is formed between said effective pixel region and said light-transparent cover, and wherein said adhering section is formed outside said effective pixel region in said one surface of said solid state image pickup device.

10. A semiconductor wafer according to Claim 6, wherein said adhering section contains photosensitive adhesive.

11. A semiconductor wafer on which a plurality of solid state image pickup devices each having an effective pixel region in one surface thereof are formed, comprising:

a light-transparent cover arranged opposite to said effective pixel region; and

an adhering section for adhering said solid state image pickup device and said light-transparent cover.

12. A semiconductor wafer according to Claim 11, wherein said adhering section contains photosensitive adhesive.

13. A semiconductor wafer according to Claim 12, wherein a space is formed between said effective pixel region and said light-transparent cover, and wherein said adhering section is formed outside said effective pixel region in said one surface of said solid state image pickup device.

14. A semiconductor wafer according to Claim 13, wherein said adhering section seals the outer periphery of said space.

15. A semiconductor wafer according to Claim 11, wherein a

space is formed between said effective pixel region and said light-transparent cover, and wherein said adhering section is formed outside said effective pixel region in said one surface of said solid state image pickup device.

16. An optical device module comprising: a lens; a lens retainer for retaining said lens; and a solid state imaging device; wherein

said solid state imaging device comprises:

a solid state image pickup device having an effective pixel region in one surface thereof;

a light-transparent cover arranged opposite to said effective pixel region and having planar dimensions smaller than those of said solid state image pickup device; and

an adhering section for adhering said solid state image pickup device and said light-transparent cover; and wherein

said light-transparent cover is arranged opposite to said lens and inside said lens retainer.

17. A method of solid state imaging device fabrication, comprising the steps of:

forming a plurality of solid state image pickup devices each having an effective pixel region in one surface thereof, onto a semiconductor wafer;

adhering a light-transparent cover having planar dimensions

smaller than those of said solid state image pickup device, in a manner opposite to said effective pixel region onto said one surface; and

dividing a plurality of said solid state image pickup devices onto each of which said light-transparent cover has been adhered, into individual solid state image pickup devices.

18. A method of solid state imaging device fabrication according to Claim 17, further comprising the step of dividing a light-transparent plate so as to form said light-transparent covers.

19. A method of solid state imaging device fabrication according to Claim 18, wherein in said step of adhering, adhesive is used that is patterned in a region outside said effective pixel region in said one surface of said solid state image pickup device.

20. A method of solid state imaging device fabrication according to Claim 19, wherein said adhesive contains photosensitive adhesive.

21. A method of solid state imaging device fabrication according to Claim 18, wherein in said step of adhering, adhesive is used that is patterned on said light-transparent plate in correspondence to a region outside said effective pixel region in said one surface of said solid state image pickup device.

22. A method of solid state imaging device fabrication according to Claim 21, wherein the adhesive-patterned surface of said light-transparent plate is affixed onto a dicing tape, and then said light-transparent plate is divided so as to form said light-transparent covers.

23. A method of solid state imaging device fabrication according to Claim 21, wherein said adhesive contains photosensitive adhesive.

24. A method of solid state imaging device fabrication according to Claim 17, wherein in said step of adhering, adhesive is used that is patterned in a region outside said effective pixel region in said one surface of said solid state image pickup device.

25. A method of solid state imaging device fabrication, comprising the steps of:

forming a plurality of solid state image pickup devices each having an effective pixel region in one surface thereof, onto a semiconductor wafer;

adhering a light-transparent plate onto said one surface of said semiconductor wafer;

dividing said light-transparent plate having been adhered onto said semiconductor wafer, so as to form light-transparent

covers each being opposite to said effective pixel region; and

dividing a plurality of said solid state image pickup devices into individual solid state image pickup devices.

26. A method of solid state imaging device fabrication according to Claim 25, wherein in said step of adhering, adhesive is used that is patterned in a region outside said effective pixel region in said one surface of said solid state image pickup device.

27. A method of solid state imaging device fabrication according to Claim 26, wherein said adhesive contains photosensitive adhesive.

28. A method of solid state imaging device fabrication according to Claim 25, wherein in said step of adhering, adhesive is used that is patterned on said light-transparent plate in correspondence to a region outside said effective pixel region in said one surface of said solid state image pickup device.

29. A method of solid state imaging device fabrication according to Claim 28, wherein said adhesive contains photosensitive adhesive.

30. An optical device module comprising:

a wiring board on which wiring is formed;

an image processor adhered to said wiring board and electrically connected to said wiring;

a solid state imaging device in which a light-transparent cover having planar dimensions smaller than those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, and which is adhered to said image processor and electrically connected to said wiring; and

an optical path defining unit arranged opposite to said solid state imaging device and defining an optical path to said solid state imaging device.

31. An optical device module according to Claim 30, wherein said optical path defining unit retains a lens arranged opposite to said light-transparent cover of said solid state imaging device.

32. An optical device module comprising:

a solid state imaging module component formed by resin-sealing: a module component wiring board on which wiring is formed; an image processor adhered to said module component wiring board and electrically connected to said wiring; and a solid state imaging device in which a light-transparent cover having planar dimensions smaller than those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, and which is adhered to said image processor and electrically connected to said wiring; in a state that

the surface of said light-transparent cover is exposed; and

an optical path defining unit arranged opposite to said solid state imaging device and defining an optical path to said solid state imaging device.

33. An optical device module according to Claim 32, wherein an external terminal connected to said wiring is formed on the surface of said module component wiring board reverse to the surface to which said image processor is adhered.

34. An optical device module according to Claim 33, wherein said external terminal has a protruding shape.

35. An optical device module according to Claim 33, wherein said optical device module further comprises a wiring board on which wiring is formed, and wherein said external terminal of said module component wiring board is connected to said wiring of said wiring board.

36. An optical device module according to Claim 32, wherein said optical path defining unit retains a lens arranged opposite to said light-transparent cover of said solid state imaging device.

37. An optical device module comprising:

a wiring board on which wiring is formed;

an image processor adhered to said wiring board and electrically connected to said wiring;

a solid state imaging device in which a light-transparent cover having planar dimensions smaller than those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, and which is adhered to said image processor and electrically connected to said wiring;

a sealing section for resin-sealing said wiring board, said image processor, and said solid state imaging device in a state that the surface of said light-transparent cover is exposed; and

an optical path defining unit arranged opposite to said solid state imaging device and defining an optical path to said solid state imaging device.

38. An optical device module according to Claim 37, wherein said optical path defining unit retains a lens arranged opposite to said light-transparent cover of said solid state imaging device.

39. A method of optical device module fabrication comprising the steps of:

adhering an image processor to a wiring board on which wiring is formed, and then connecting the connection terminals of said image processor to said wiring;

adhering a solid state imaging device in which a light-transparent cover having planar dimensions smaller than

those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, to said image processor, and then connecting the connection terminals of said solid state imaging device to said wiring; and

positioning said solid state imaging device and an optical path defining unit for defining an optical path to said solid state imaging device.

40. A method of optical device module fabrication according to Claim 39, wherein a plurality of optical device modules are formed simultaneously on a multiple wiring board formed by linking a plurality of said wiring boards, and wherein said multiple wiring board is then divided so that a plurality of said optical device modules are divided into individual optical device modules.

41. A method of optical device module fabrication comprising the steps of:

adhering an image processor to a module component wiring board on which wiring is formed, and then connecting the connection terminals of said image processor to said wiring;

adhering a solid state imaging device in which a light-transparent cover having planar dimensions smaller than those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, to said image processor, and then connecting the connection terminals of

said solid state imaging device to said wiring;

resin-sealing said module component wiring board, said image processor, and said solid state imaging device in a state that the surface of said light-transparent cover is exposed, and thereby forming a solid state imaging module component; and

positioning said solid state imaging device and an optical path defining unit for defining an optical path to said solid state imaging device.

42. A method of optical device module fabrication according to Claim 41, wherein an external terminal is formed on the surface of said module component wiring board reverse to the surface to which said image processor is adhered, and wherein said method further comprises the step of connecting said external terminal to said wiring formed on said wiring board.

43. A method of optical device module fabrication according to Claim 42, wherein said external terminal has a protruding shape.

44. A method of optical device module fabrication according to Claim 42, wherein a plurality of optical device modules are formed simultaneously on a multiple wiring board formed by linking a plurality of said wiring boards, and wherein said multiple wiring board is then divided so that a plurality of said optical device modules are divided into individual optical device modules.

45. A method of optical device module fabrication according to Claim 41, wherein a plurality of solid state imaging module components are formed simultaneously on a multiple module component wiring board formed by linking a plurality of said module component wiring boards, and wherein said multiple module component wiring board is then divided so that a plurality of said solid state imaging module components are divided into individual solid state imaging module components.

46. A method of optical device module fabrication comprising the steps of:

adhering an image processor to a wiring board on which wiring is formed, and then connecting the connection terminals of said image processor to said wiring;

adhering a solid state imaging device in which a light-transparent cover having planar dimensions smaller than those of a solid state image pickup device is attached opposite to the effective pixel region of said solid state image pickup device, to said image processor, and then connecting the connection terminals of said solid state imaging device to said wiring;

resin-sealing said wiring board, said image processor, and said solid state imaging device in a state that the surface of said light-transparent cover is exposed, and thereby forming a sealing section; and

positioning said solid state imaging device and an optical path defining unit for defining an optical path to said solid state imaging device.

47. A method of optical device module fabrication according to Claim 46, wherein a plurality of optical device modules are formed simultaneously on a multiple wiring board formed by linking a plurality of said wiring boards, and wherein said multiple wiring board is then divided so that a plurality of said optical device modules are divided into individual optical device modules.